

PMD18K SERIES NPN  
PMD19K SERIES PNP

**COMPLEMENTARY SILICON  
DARLINGTON POWER  
TRANSISTORS**



**TO-3 CASE**



[www.centralsemi.com](http://www.centralsemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR PMD18K, PMD19K series types are complementary silicon Darlington power transistors, manufactured by the epitaxial base process, designed for power switching applications. These devices are designed to be electrical/mechanical equivalents to Lambda part numbers.

**MARKING: FULL PART NUMBER**

**MAXIMUM RATINGS:** ( $T_C=25^\circ\text{C}$ )

|                                              | SYMBOL         | PMD18K80<br>PMD19K80 | PMD18K100<br>PMD19K100 | UNITS              |
|----------------------------------------------|----------------|----------------------|------------------------|--------------------|
| Collector-Base Voltage                       | $V_{CBO}$      | 80                   | 100                    | V                  |
| Collector-Emitter Voltage                    | $V_{CER}$      | 80                   | 100                    | V                  |
| Collector-Emitter Voltage                    | $V_{CEO}$      | 80                   | 100                    | V                  |
| Emitter-Base Voltage                         | $V_{EBO}$      |                      | 5.0                    | V                  |
| Continuous Collector Current                 | $I_C$          |                      | 30                     | A                  |
| Peak Collector Current                       | $I_{CM}$       |                      | 60                     | A                  |
| Continuous Base Current                      | $I_B$          |                      | 750                    | mA                 |
| Power Dissipation ( $T_C=50^\circ\text{C}$ ) | $P_D$          |                      | 240                    | W                  |
| Operating and Storage Junction Temperature   | $T_J, T_{stg}$ | -65 to +200          |                        | $^\circ\text{C}$   |
| Thermal Resistance                           | $\Theta_{JC}$  |                      | 0.625                  | $^\circ\text{C/W}$ |

**ELECTRICAL CHARACTERISTICS:** ( $T_C=25^\circ\text{C}$  unless otherwise noted)

| SYMBOL        | TEST CONDITIONS                                                | MIN  | MAX | UNITS |
|---------------|----------------------------------------------------------------|------|-----|-------|
| $I_{CER}$     | $V_{CE}=54\text{V}, R_{BE}=2.2\text{k}\Omega$ (PMD18K, 19K80)  |      | 10  | mA    |
| $I_{CER}$     | $V_{CE}=67\text{V}, R_{BE}=2.2\text{k}\Omega$ (PMD18K, 19K100) |      | 10  | mA    |
| $I_{EBO}$     | $V_{EB}=5.0\text{V}$                                           |      | 3.0 | mA    |
| $BV_{CER}$    | $I_C=100\text{mA}, R_{BE}=2.2\text{k}\Omega$ (PMD18K, 19K80)   | 80   |     | V     |
| $BV_{CER}$    | $I_C=100\text{mA}, R_{BE}=2.2\text{k}\Omega$ (PMD18K, 19K100)  | 100  |     | V     |
| $BV_{CEO}$    | $I_C=100\text{mA}$ (PMD18K, 19K80)                             | 80   |     | V     |
| $BV_{CEO}$    | $I_C=100\text{mA}$ (PMD18K, 19K100)                            | 100  |     | V     |
| $V_{CE(SAT)}$ | $I_C=15\text{A}, I_B=60\text{mA}$                              |      | 2.0 | V     |
| $V_{BE(SAT)}$ | $I_C=15\text{A}, I_B=60\text{mA}$                              |      | 2.8 | V     |
| $V_{BE(ON)}$  | $V_{CE}=3.0\text{V}, I_C=15\text{A}$                           |      | 2.8 | V     |
| $h_{FE}$      | $V_{CE}=3.0\text{V}, I_C=15\text{A}$ (PMD18K series)           | 1.0K | 20K |       |
| $h_{FE}$      | $V_{CE}=3.0\text{V}, I_C=15\text{A}$ (PMD19K series)           | 800  | 20K |       |
| $h_{fe}$      | $V_{CE}=3.0\text{V}, I_C=9.0\text{A}, f=1.0\text{kHz}$         | 300  |     |       |
| $f_T$         | $V_{CE}=3.0\text{V}, I_C=9.0\text{A}, f=1.0\text{MHz}$         | 4.0  |     | MHz   |
| $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$                    |      | 600 | pF    |

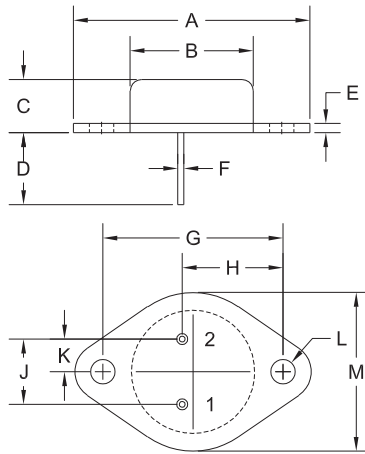
R1 (2-October 2012)

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**TO-3 CASE - MECHANICAL OUTLINE**



R2

| DIMENSIONS |        |       |             |       |
|------------|--------|-------|-------------|-------|
| SYMBOL     | INCHES |       | MILLIMETERS |       |
|            | MIN    | MAX   | MIN         | MAX   |
| A          | 1.516  | 1.573 | 38.50       | 39.96 |
| B (DIA)    | 0.748  | 0.875 | 19.00       | 22.23 |
| C          | 0.250  | 0.450 | 6.35        | 11.43 |
| D          | 0.433  | 0.516 | 11.00       | 13.10 |
| E          | 0.054  | 0.065 | 1.38        | 1.65  |
| F          | 0.035  | 0.045 | 0.90        | 1.15  |
| G          | 1.177  | 1.197 | 29.90       | 30.40 |
| H          | 0.650  | 0.681 | 16.50       | 17.30 |
| J          | 0.420  | 0.440 | 10.67       | 11.18 |
| K          | 0.205  | 0.225 | 5.21        | 5.72  |
| L (DIA)    | 0.151  | 0.172 | 3.84        | 4.36  |
| M          | 0.984  | 1.050 | 25.00       | 26.67 |

TO-3 (REV: R2)

**LEAD CODE:**

- 1) Base
- 2) Emitter
- Case) Collector

**MARKING:**

**FULL PART NUMBER**

R1 (2-October 2012)